

## REQUEST FOR COUNCIL ACTION

**SUBJECT:** **Secondary Water System Connection Design** – Approval of Amendment No. 1 to the existing Professional Service Agreement with Hansen Allen & Luce, Inc. for design of water connections of the secondary water system to existing culinary water system.

**SUMMARY:** Council previously approved a Professional Services Agreement with HAL to prepare an update to the Secondary Water Master Plan. During recent discussions with City Council, the Council directed staff to move forward with construction of the secondary water system with the first phase being to connect the Jordan Hills Villages subdivisions to the existing culinary water system. This staff report presents an amendment to the HAL Agreement to do as the Council has directed.

**FISCAL IMPACT:** Funding for this project is available in the Utility Water Reserves Account.

**STAFF RECOMMENDATION:** Staff recommends approval of Amendment No. 1 to the Hansen Allen & Luce, Inc. Professional Services Agreement for the Secondary Water Master Plan in an amount not to exceed \$25,100.00.

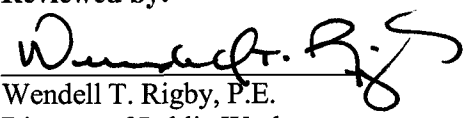
**MOTION RECOMMENDED:** "I move to adopt Resolution No. 14-231 authorizing the Mayor to execute Amendment No. 1 to the Hansen Allen & Luce, Inc. Professional Services Agreement for the Secondary Water Master Plan in an amount not to exceed \$25,100.00.

Roll Call vote required.

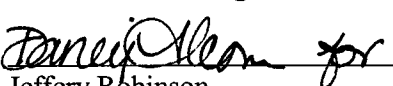
**Prepared by:**

  
Craig Frisbee  
Utilities Manager

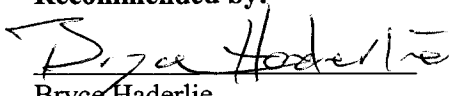
**Reviewed by:**

  
Wendell T. Rigby, P.E.  
Director of Public Works

**Reviewed as to Legal Sufficiency:**

  
Jeffery Robinson  
City Attorney

**Recommended by:**

  
Bryce Haderlie  
Interim City Manager

## **BACKGROUND DISCUSSION:**

Hansen Allen & Luce, Inc. (HAL) has prepared a proposal for design of Phase 1 of the 2015 Secondary Water Project. Under this proposal, HAL outlines the expected work to connect and rehabilitate the existing “dry pipe” secondary water system. City staff provide support to HAL in the form of the City’s geographical information system maps and database, computer modeling and as-built information.

As part of the HAL Agreement Amendment, HAL will:

1. Receive data the City has regarding GIS information, maps and modeling data
2. Review the data
3. Conduct an onsite visit or visits to determine size of pipes, condition of pipe and general system
4. Review connections (type, condition etc.)
5. Check the system configuration for drainage and other maintenance issues
6. Conduct a topographical survey of the system
7. Prepare a base map of the system
8. Make final recommendations

The City will at the end of the project, receive:

1. A hydraulic model of the secondary water system
2. A base map of the system
3. Design drawings
4. Contract specifications

HAL has provided a proposed schedule which indicates the completion of the first phase of design of the secondary water system to be complete around February 13, 2015 with the goal of having these phase 1 subdivisions ready for use for the 2015 irrigation system.

Due to the desire to make these phase 1 connections, staff requested only a proposal from HAL in order to save time and get the design and construction completed as soon as possible. HAL’s initial Agreement was for \$79,533.00, with this Amendment of \$25,100 the new Agreement total is \$104,633.00.

### **Attachments:**

Resolution

Amendment No. 1

RESOLUTION NO. 14-231

Jeff Haaga  
Judy Hansen  
Chris McConnehey  
Chad Nichols  
Ben Southworth  
Justin D. Stoker  
Mayor Kim V. Rolfe

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**AMENDMENT NO. 1**  
**TO AN AGREEMENT**  
**FOR PROFESSIONAL SERVICES**  
**BETWEEN THE CITY OF WEST JORDAN**  
**AND**  
*Hansen, Allen and Luce, Inc.*

THIS AMENDMENT, made and entered into this 17<sup>th</sup> day of December 2014 by and between the CITY OF WEST JORDAN, a municipal corporation (hereinafter referred to as "City"), and Hansen Allen & Luce, Inc.(hereinafter referred to as "Consultant").

The City and Consultant agree as to amend the following sections of the original Professional Services Agreement to provide for additional design services for the Secondary Water Master Plan.

2. **DESCRIPTION OF SERVICES**

The services to be performed by Consultant are as follows:

Provide for the design of water connections of the secondary water system to existing culinary water system as described in the attached Consultant's proposal dated November 18, 2014.

3. **COMPENSATION AND PAYMENT**

The total compensation payable to Consultant by City for the services described in Paragraph 2 shall not exceed the sum of **\$25,100** for Amendment No. 1 bringing the total not-to exceed fee to \$104,633.00 for services under this contract.

In concurrence and witness whereof, this Agreement has been executed by the parties effective on the date and year first above written.

CITY OF WEST JORDAN

\_\_\_\_\_  
Kim V. Rolfe, Mayor

APPROVED AS TO ADMINISTRATION:

\_\_\_\_\_  
Melanie Briggs, City Recorder

**APPROVED AS TO LEGAL FORM**  
West Jordan City Attorney

By: *Tamir Allen* Date: 12-8-14

CONSULTANT

Richard M Noble  
Hansen, Allen and Luce, Inc.

STATE OF Utah

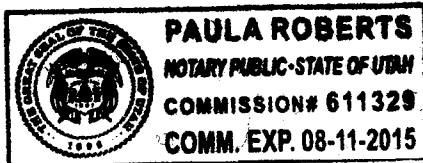
COUNTY OF Salt Lake

On this 4 day of Dec., 2014 personally appeared before me, \_\_\_\_\_

Richard M. Noble, who being by me duly sworn did say that he is the Principal  
of Hansen, Allen & Luce, Inc., a Utah

corporation, and that the foregoing instrument was signed in behalf of said corporation by authority of its  
Board of Directors, and he acknowledged to me that said corporation executed the same.

Paula Roberts  
NOTARY PUBLIC



My Commission Expires: 08-11-2015

Residing in Salt Lake County, Utah



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MIDVALE, UTAH 84047  
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www.hansenallenluce.com

Mr. Craig Frisbee  
Public Utilities Manager  
City of West Jordan  
8030 South 4000 West  
West Jordan, UT 84088

November 18, 2014

Re: Proposal for Professional Engineering Services – 2015 Secondary Water Project Design

Dear Mr. Frisbee:

As requested, Hansen, Allen & Luce, Inc. (HAL) has prepared this proposal for design of the 2015 Secondary Water Project. This project was identified as part of HAL's work on updating the Secondary Water Master Plan. Included in this proposal are: a statement of the understanding of the project, HAL's scope of work, our schedule, and a fee proposal.

#### UNDERSTANDING OF THE PROJECT

Earlier this year the City of West Jordan entered into a contract with HAL to prepare an update to the Secondary Water Master Plan. To date, West Jordan only operates a limited secondary water system to irrigate selected parks and open spaces. The City does not operate a secondary system to provide water to residential or commercial areas. The focus of the master plan update was the area west of 4800 West. In this area many of the subdivisions have dry secondary water distribution pipelines in place in anticipation of a secondary water system. A major objective of the master plan update was to identify a plan to provide a water supply for these dry pipe systems and place them into operation.

Working with the City, HAL identified a conceptual plan that is based on a phased approach for providing water to the dry secondary water pipe systems and developing a functioning secondary water system. The initial phase of the plan involves connecting the dry pipes to the drinking water system using backflow prevention devices known as reduced pressure zone (RPZ) devices. Water would then be supplied to the secondary water pipes from the drinking water system. In future phases, water from other lower cost sources would be incrementally added to the system by constructing transmission pipelines, booster pump stations, and reservoirs.

RPZ devices are considered to provide adequate backflow prevention for this type of application. The devices consist of two independent check valves, plumbed in series, with a pressure monitored chamber between. The chamber is maintained at a pressure that is lower than the water supply pressure, but high enough to be useful downstream. The reduced



pressure is guaranteed by a differential pressure relief valve, which automatically relieves excess pressure in the chamber by discharging to a drain.

The area west of Mountain View Corridor and north of 8600 South was identified as the highest priority area for implementing secondary water.

## **APPROACH TO THE WORK**

Presented below is our proposed project approach to design three connections to the culinary water system and pressurize the existing dry pipe systems west of Mountain View Corridor and north of 8600 South.

### **Task 1 – Gather Existing Data and Survey**

**Objective:** To collect and review data on the existing dry pipe systems to determine locations for the RPZ connections. Provide topographic survey of the selected RPZ sites to be used in the preparation of design drawings.

#### **Activities:**

1. Review the following information that will be provided by West Jordan City:
  - Existing secondary water system maps and attributes in GIS format that includes pipe location, age, material, bury depth
  - Existing drinking water system maps and attributes in GIS format that includes pipe location, age, and material.
  - Existing secondary water system model files
2. Review existing data collected and select potential RPZ connection sites.
3. Conduct a site visit with city staff to review potential RPZ connection sites, investigate existing secondary water service lateral connection boxes, and identify other features of the existing dry pipe systems.
4. Based on the information collected during the site visit, make a final recommendation for the RPZ connection sites.
5. Check configuration of existing dry pipe systems to determine if system can be adequately drained. Make recommendations for additional drains, if needed. Design of additional drains could be added as new scope and budget.
6. Conduct topographic survey of the three RPZ connection sites.
7. Prepare base map for each of the three RPZ connection sites.

#### **Products:**

1. Topographic survey and base file for three RPZ connection sites.

### **Task 2 – Prepare hydraulic model**

**Objective:** Prepare a hydraulic model to determine the required size of the RPZ connections.

**Activities:**

1. Using information gathered in Task 1, prepare a water system model.
2. Determine the required size for the RPZ connections.
3. Check configuration of existing dry pipe systems to determine if system can be adequately drained.

**Products:**

1. Hydraulic Model
2. RPZ Connection Sizes

**Task 3 – Design Phase**

**Objective:** To prepare drawings and specifications to be used for bidding for the construction of the RPZ connections.

**Activities:**

1. Prepare design drawings to approximately a 50% stage. Submit drawings to the city for review.
2. Hold a design review meeting with city staff to receive comments on the 50% level design.
3. Prepare design drawings and technical specifications to approximately a 90% stage incorporating comments received during the review meeting.
4. Hold a design review meeting with city staff to receive comments on the 90% level design.
5. Prepare final design drawings and technical specifications to be used for bidding.

**Products:**

1. Design drawings and specifications.

**SCHEDULE**

Assuming HAL has notice to proceed by December 4, 2014, we will complete the work according to the following schedule.

Preliminary Design – December 12, 2014

Completion of Final Drawings and Technical Specifications – February 13, 2015

**FEE PROPOSAL**

We propose to complete the work on a time and materials basis with a not-to-exceed contract amount of **\$25,100**. A detailed breakdown of HAL's estimated time and expenses is provided in the attached table.



Mr. Craig Frisbee  
November 18, 2014  
Page 4

We appreciate the opportunities that we have had working with the City in the past and hope to be able to assist the City with this project. Please do not hesitate to call if there are any questions regarding information in this proposal.

Sincerely:

HANSEN, ALLEN & LUCE, INC.

A handwritten signature in cursive script, reading "Richard M. Noble". The signature is written in dark ink and is positioned above a horizontal line.

Richard M. Noble, P.E.  
Principal and Project Manager

# HAL PROPOSAL SPREADSHEET

CLIENT: West Jordan  
PROJECT: 2015 Secondary Water System Project

Pia	Task #	Task Activity	Billing Period	Hours							Total Hours	Labor Costs	Expense Cost	Total HAL Cost	Outside Expense	COMMENT
				Principal	Managing Prof.	Sr. Prof II	Sr. Prof I	GFS Survey	Prof I	CAD	Secretary					

HANSEN  
S. LUTSEN  
11/11/11

## I Gather Existing Data and Survey

100	Review info Provided by the City	1		2.2								2.2	\$315.04	13.20	\$328.24	
101	Review data and select potential RPZ sites	1	1.1	4.4								5.5	\$877.08	33.00	\$850.08	
102	Conduct Site Visit	1	4.4	4.4								8.8	\$1,378.08	95.70	\$1,473.78	
103	Recommend final RPZ sites	1	1.1	4.4								5.5	\$877.08	33.00	\$850.08	
104	Check Existing System for Drainage	1		1.1				8.8	8.8			9.9	\$1,004.96	59.40	\$1,064.36	
105	Conduct topographic survey	1										8.8	\$1,399.20	52.80	\$1,452.00	
106	Prepare base maps	1										4.4	\$332.20	26.40	\$358.60	
SUBTOTAL:				6.6	16.5	0	0	8.8	8.8	4.4	0	45.1	\$6,083.64	\$313.50	\$6,377.14	\$0.00 Outside / Subconsultant Costs

## II Prepare Hydraulic Model

200	Prepare model	1										15.4	\$1,545.28	92.40	\$1,637.68	
201	Run model and determine RPZ connection sizes	1	2.2				2.2		13.2			11	\$1,121.56	66.00	\$1,187.56	
299	Quality Control (QC) / Quality Assurance (QA)	1	2.2	0			4.4		8.8			2.2	\$374.00	13.20	\$387.20	
SUBTOTAL:				\$374.00	\$0.00	\$0.00	\$548.24	\$0.00	\$2,118.60	\$0.00	\$0.00	28.6	\$3,040.84	\$171.60	\$3,212.44	\$0.00 Outside / Subconsultant Costs

## III Design Phase

300	Prepare 50% design drawings	1		16.4								52.8	\$5,028.98	316.80	\$5,345.78	
301	Conduct 50% review meeting	1	2.2	2.2								4.4	\$889.04	69.30	\$758.34	
302	Prepare 80% design drawings and technical specs	1		19.8					30.8			50.6	\$5,160.76	303.60	\$5,464.36	
303	Conduct 80% review meeting	1	2.2	2.2								4.4	\$889.04	69.30	\$758.34	
304	Prepare final drawings and technical specs	1		8.8					8.8			17.6	\$1,924.56	105.60	\$2,030.16	
399	Quality Control (QC) / Quality Assurance (QA)	1	6.6	48.4		0	0	0	77		0	136.4	\$14,614.38	\$904.20	\$15,518.58	\$0.00 Outside / Subconsultant Costs
SUBTOTAL:				\$1,870.00	\$8,930.88	\$0.00	\$0.00	\$0.00	\$5,813.60	\$0.00	\$0.00					

TOTAL HOURS BY EMPLOYEE:

Principal	19.8	64.9	0	4.4	8.8	30.8	81.4	0
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PHASE	TASK	Labor		Direct Exp		Subtotal	Subconsultant		Subtotal
		Costs		Cost			Costs		
I	Gather Existing Data and Survey	\$6,083.64		\$313.50		\$6,377.14	\$0.00		\$6,377.14
II	Prepare Hydraulic Model	\$3,040.84		\$171.60		\$3,212.44	\$0.00		\$3,212.44
III	Design Phase	\$14,614.38		\$904.20		\$15,518.58	\$0.00		\$15,518.58
TOTAL:		\$23,718.86		\$1,389.30		\$25,108.16	\$0.00		\$25,108.16